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ABSTRACT

Papers on library statistics, which were presented at the 1983 International Federation of Library Associations (IFLA) conference, include: (1) "Network Statistics and Library Management," in which Glyn T. Evans (United States) suggests that network statistics can be used to improve internal library decisionmaking, enhance group resource sharing decisions, and provide a common base for national and international information policy decisions; (2) "The Impact of UNESCO (United Nations Educational, Scientific, and Cutural Organization) Statistics on Nigerian Library Services," by J. A. Dosunmu (Nigeria); (3) "A U.S. (United States) Perspective on Library Statistics--Domestic and International," in which Robert Wedgeworth (United States) outlines activities intended to coordinate the collection and dissemination of American library statistics and the experience of the American Library Association (ALA) in collecting international library statistics; (4) "The Development of Library Statistics in the Caribbean," a description by Carol Collins (Guyana) of data collection activities and the need for further library statistics, particularly performance measurement data; and (5) "Evolution des Couts des Periodiques dans les Bibliotheques Universitaires Francais durant la Periode 1972-1982 (The Evolution of the Costs of Journals in French University Libraries from 1972 to 1982)," in which Gerard Thirion (France) reports a 5% and a 2% annual increase in foreign and French journal subscription costs respectively, based on a study conducted at the University of Nancy (paper in French). (ESR)

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IFLA
1983

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IFLA SECTION ON STATISTICS

NETWORK STATISTICS

Network Statistics and Library Management

by

Glyn T. Evans
Assistant Vice Chancellor for Library Services
State University of New York Central Administration
and
Director, SUNY/OCLC Network

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State University of New York
State University Plaza
Albany, New York 12246
USA
518-474-1430

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1. Introduction

This paper proposes that the growing national and international acceptance of library and information networks offers the opportunity for a major improvement in library management. The availability of consistent, machine-readable, institution-specific data derived from common sources makes this possible. Such data, when derived from a network, can be used to improve internal library decision making, to enhance resource sharing decisions for a group of libraries, and to provide a common base for broad national and international information policy decisions.

In a paper presented at the 48th Council and General Conference[1] the present author reported on work undertaken by State University of New York to develop a library management information system based on the analysis of OCLC tapes, publishing data, and academic program data. This paper steps a pace back from such a detailed report to place the issue of network statistics in a broader operational and philosophical content

2. Background

The 1982 paper[1] identified four levels of network statistics:-

a. Operational Statistics
b. Performance Statistics
c. Statistics based on analysis of output productions by computation
d. Statistics derived from the analysis process through combination with external data elements, such as academic mission or publishing data.

Examples of such statistics are given, and brief reports of derived data are given. A paper given at the 1982 Urbana Clinic on Library Applications of Data Processing[2] gives a fuller report of this work.

Four problem areas were identified in the 48th IFLA paper. They are:-

a. Definitions and standards
b. Maintenance of data and tables
c. Continued investment in development
d. Acceptance by the community.

3. Role of Network Statistics in Library Management

The growing use of library networks offers libraries some advantages in the generation of data for internal management purposes. Among them are:-

a. Standard definitions. Because the machine-readable data must be consistent in creation and use, standard definitions must be followed by all libraries and individuals. This does not, however, prohibit a library from making its own individual intellectual decisions consistent with its own mission and tradition. An ISBN, for example, will be consistent whenever it is used to describe the same items. A classification number, say from Dewey or Library of Congress may quite properly be inconsistent among libraries based on their own assignments and collection emphasis. Thus, the ISBN is an element which is most powerful for external statistical analysis; the classification number most powerful for internal analysis, although not without external value.

b. Common Data Source. Machine-readable statistical data derived from the same source will have internal consistency, hence have the same reliability or confidence level. A further advantage is that software developed for the manipulation and analysis of raw data may be used for all libraries in the same network, a considerable improvement in cost efficiency.

c. Ease of data gathering and manipulation.

d. Potential for growth. As networks are received with greater acceptance by libraries more network by-product data will be available for comparison and analysis. Networks and libraries have been slow to appreciate the value of such data, understandably of course. The pressures have been to develop and accept a service, not to provide subordinate data. That fact does not diminish the potential value, however.

e. International prospects. By extension, the more library data are exchanged internationally, through the same networks, or by the exchange of tapes with records added to national networks, the better the prospects of attaining consistent results in international data collection and analysis.

There are disadvantages.

a. Non-network Users. While network use is growing, there will always be libraries that through choice or lack of opportunity or resource are not network members. While this is not an internal library problem it does

present difficulty in the gathering and collation of external library statistics. Is there a threshold at which data gathering procedures should be changed to reflect a majority of network users, and thus force on to non-network users (who may already be in difficulty) the need to change internal reporting procedures to conform to new standards?

b. Changing practices. Many of our data gathering definitions and procedures have grown from the real limitations of manual data collection. Consequently libraries have tended to sacrifice some precision in favor of utility. This is also true, of course, in national statistics collection. One example is the emphasis on volume count rather than bibliographic title count, the subject of an interesting paper by Bregzis presented at the 48th Council of IFLA[5], in which he argues for the acceptance of the title count as an important datum necessary for network management. The emphasis on static input data (volumes held, serials subscriptions placed) rather than dynamic collection use data as a measure of service effectiveness is another example.

   Definitions must be changed, where necessary, to conform to the new operational realities of networking.

c. Acceptance of change. Quite apart from the necessity of investing limited resources in change (new procedures definitions, the political establishment of new modes) there will continue to be social reluctance to accept change. Managers and administrators are people, and many are fearful of change, of knowledge. It is sometimes difficult to assimilate and incorporate new data into one's personal decision making process where intuition and habit may carry most weight.

4. The Library in its Community

With rare exceptions, the library is part of a larger institution and consequently its mission is to support the larger institutional mission, be it academic, industrial or commercial, artistic, medical or legal, or community. It follows that in order for the library to achieve its mission, its decision processes must be subordinate to, and integrated with, institutional decisions. It further follows that, in the development of internal management information or decision support systems, library use and bibliographic data must be linked to institutional data. One common example is the relationship between library circulation statistics and different types of library user; students, or faculty, or children, for example. Work previously cited (1,2) links the discipline of the books acquired with the academic programs and mission of college or university, a more complex task than counting circulation users, but once accomplished of considerable potential to many academic libraries.

The data elements which are found in a machine-readable bibliographic database vary in potential value. Some are of prime value for external comparisons, to assess uniqueness of collection, or to relate to book publishing data, for example. Such elements are unique to a bibliographic item, but in common with all network libraries which have acquired that item. ISBN's, LC Card Numbers, and OCLC Record Numbers are examples of such items. Others can be institution specific, such as local call numbers or subject headings. These have prime value in assessing the degree to which the discipline of the collection supports the institutional mission; but they also have secondary value in external comparison of disciplinary strengths among similar libraries. A comparison of medical library holdings in microbiology, for example, can be achieved through the use of such elements.

Finally, the two groups can be combined to determine both relative strength and relative uniqueness[2].

Given that networks are the primary source of such data, the economic and social values of network statistics are established. A library can make its internal decisions for institutional support based on an awareness of external information sources, thus improving its cost effectiveness.

Four questions must be addressed, however. The first is what degree of confidence can the library have in the data; or, given the human potential for error, what are the tolerable limits of inaccuracy in a management information system? As systems develop, this question must become more important, and better studied. An important component in this issue is the degree of investment to be made in maintaining the system and its links as the environments change. Feedback must be incorporated into routine system maintenance, but it will incur cost and effort.

Second, what are the necessary safeguards to ensure the confidentiality of institutional management and operational data in a network, or accessed through a network, or available as a network by-product? It is not difficult to imagine situations where data available through a network can be extremely confidential to a member institution.

Third, what processes are necessary to ensure an adequate level of data consistency sufficient to ensure the development of time series and trend data, for many purposes the most valuable statistics of all? For example, definitions must evolve with practice and the environment, of course, but they must not be so volatile that operational trends cannot be determined with confidence.

Fourth, to what extent is it possible, and desirable, for networks to distribute raw, or correlated, data in machine-readable form for local manipulation using micros, modelling software, and local software? It is proposed that this is the richest potential use of network management statistics, given conformance with the criteria of confidence in, and confidentiality of, the data by networks and libraries.

5. The Community of Libraries

Although a library's prime mission is to support its own institutional mission, it has already been shown in this paper that network data and statistics can be used to improve library cost effectiveness through awareness of other resources. The awareness gained is not knowledge of the location of a specific title (a function of the online catalog) but of gross collection strengths and patterns of growth.

There are four levels at which these data can be derived.

At the network level a subset of libraries using the same network, but in the same geographic region or organizational unit (for example a multi-campus university) can assess and compare their disciplinary strengths, or usage patterns, and make their internal allocations accordingly.

At the disciplinary level groups of libraries (which may or may not be in the same network) can perform similar comparisons and use the data to inform their decisions.

At the national level much more work needs to be done. National definitions do not generally yet take account of the new opportunities offered by network data. One is reluctant the advocate change for change's sake, particulary in such a difficult administrative and political area as statistics gathering, but at least in the United States the time has come to change. The American National Standards Institute (ANSI) has recently approved a revision of ANSI Standard Z39.7 Library Statistics[4] but many of the definitions in the revisions do not take account of the possibilities offered by network data and statistics. Given the slow moving nature of the development of statistical definitions it is probably not too soon to begin to reassess the standard.

It has already been stated that libraries which are not network users will face some difficulty in change; but difficult though it may be, economic and social conditions demand high levels of cost efficiency.

Finally, there is the question of the development of a consistent international statistical database. In many ways, the problems at the international level are the same as those of libraries seeking management data during the evolution of networks. The major efforts of the international community, of IFLA, have been directed, wisely, at the establishment of Universal Bibliographic Control[5] and the Universal Availability of Publications (UAP). In terms of time, UBC is about at the stage of the early bibliographic networks in the U.S., say a decade behind their status. This is not a criticism of the UBC program, because the efforts are heroic, the problems immense, and the progress startling. Rather, it is a statement of opportunity. As national statistical systems evolve and develop

through the availability of network statistics and data, so can the international community benefit from the same data, the same processes and the same models. The UBC program must take account of such opportunities at this early stage in its development.

The logic of the problems and their solutions are probably not different at the different levels of activity stated in this section.

6. The Tasks Ahead

Although it seems clear that network data and statistics can make a considerable contribution to improving the management, planning and allocation of information resources much work remains to be done.

This paper proposes four broad areas of concern.

First, there needs to be a major analysis and perhaps revision of data definitions used in library and information statistics based on the growing acceptance of library networks and machine-readable data.

Second, a major effort to continue the development of software and linking analytical tables, and the incorporation of newer classes of machine-readable data from a variety of sources as they become available, must be mounted and sustained.

Third, the levels of decision making which can be improved through better statistical data must be reviewed. This paper proposes local, disciplinary, national and international levels. Work is virtually complete for much analysis at the local and disciplinary levels; and from these achievements it is reasonable to hope that consistent national data can evolve.

It is not too soon to think about the use of consistent national data to illumine discussions of broad information policy and planning at the international level.

Fourth, and perhaps most difficult, which organizations and institutions will accept the responsibility to undertake the tasks outlined here at the various levels? There is both need and opportunity enough for involvement of all skills and levels. While one does not perceive a massive coordinated program, at least general concensus on the end products of such research and development would be a valuable guide for individual efforts by different groups.

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THE IMPACT OF UNESCO STATISTICS ON NIGERIAN LIBRARY SERVICES

BY

J. A. DOSUNMU, National Library of Nigeria, Lagos, Nigeria

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THE IMPACT OF UNESCO STATISTICS ON NIGERIAN LIBRARY SERVICES

This brief address is a description of a benevolent cycle. It is based on a situation in which the UNESCO questionnaire on librarz statistics stimulted procedures on a national scale for collecting necessary data for efficient completion of the questionnaire. The stimulation was initiallz restricted to an undetermined number of pockets of librarz activitz throughout the countrz. Incidentally, the National Library of Nigeria was one of these "pockets", probably the foremost since it is in the direct communication route of UNESCO with Nigeria.

As a result of this phenomenon it appears to have dawned on the nation's libraries that there was the need to meet international standards for collecting statistical data. It is relevant to not here that the initial goal was to satisfy UNESCO.

The National Library has been participating in annual conferences of IFLA since the late 1960's. The discovery of this shortcoming at the national level also stimulated National Library's interest in the IFLA Section on Statistics. One could rightly say, then, that the first impact made bz the UNESCO library statistics data gathering effort in Nigeria was to arouse interest in IFLA, Section on Statistics as a drum for comparing notes with colleagues in the profession and also for listening to experts discuss the most modern techniques in the area of library operations. As a result of this impact the National Library was designated official collector of library statistical data for UNESCO earlz in 1970's.

Whatever benefits accrue to UNESCO as a result of efforts made at gethering statistical data in Nigeria, can only be seen on the pages of UNESCO publication. This paper is restricted to the areas in which the efforts of completing UNESCO questionnaire on library statistics visiblz prove to be a blessing to library services at National Library level. These areas are enumerated below:

1. Many hitherto unknown libraries were brought together in zonal groups with the overt aim of learning how to complete the questionnaire. The list of participants of such zonal workshops brought into limelight some additional 10 - 20 per cent of library services within the country which would otherwise have remained unknown and therefore out of all communication range.

2. As an extension of the first benefit mentioned above, information on libraries and library services within the nation increased appreciably and the data required for internal consumption of library statistics assumed a more meaningful dimension.

3. Returns made to the National Collecting Centre for library statistics were visibly more accurate, more comprehensive, more regular in frequencz, moreover, thez arrive within shorter time of the distribution.

4. There was increased awareness of the number and value of library services in the country.

5. A number of library service institutions indicate that the availabilitz of data they now gather in their instituions improved their budgetting techniques and procedures, making it easier for them to convince their authorities to release more funds

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6. A number of libraries have claimed that they are now setting goals and targets for their services with greater facility than they did before they got involved in the national effort on compilation of statistical data.

7. The National Library of Nigeria now finds it easier with all the data at its disposal, to describe, compare and evaluate library services without having to do a survey of the physical facilities and without having to pay visits to those libraries.

8. The last result to be mentioned is the ease with which the National Implementation Committee on Co-operative Acquisitions was able to use the statistical data, gathered with a view to completing UNESCO questionnaire, for zoning the country into regions expected to be self-sufficient in terms of comprehensive collections after a given number of years of the implementation of the scheme.

I am permitted to say that the National Library of Nigeria will gladly share its experience with our colleagues in Africa through formal and informal channels of communication if it is desired.

Thank you.

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A U.S. PERSPECTIVE ON LIBRARY STATISTICS DOMESTIC AND INTERNATIONAL

by
Robert Wedgeworth

American Library Association
Chicago, Illinois
U.S.A.

IFLA Section on Statistics

August 24, 1983

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ABSTRACT

This paper discusses briefly recent activities in the U.S.A. intended to improve the coordination of the several agencies involved in the collection, compilation, and dissemination of descriptive statistics about libraries. Experience of the American Library Association in collecting library statistics around the world in connection with the ALA World Encyclopedia of Library and Information Services reveals the possibility for improving the coordination and design of international systems for library statistics.

Background

Currently there are at least four major agencies and two related groups of agencies involved in the collection and publication of descriptive statistics about libraries (see Annex 1). They are related to each other in various ways, but do not agree completely on the categories of data to be collected, the definition of terms used, the procedures for collecting data, or methods for compiling and displaying the data. As a result, those seeking information about the size and shape of the library community in the U.S. must look in several different sources and occasionally try to interpolate incompatible data. Since the spring of 1982, serious discussions have taken place among the several agencies involved in collecting library statistics in order to develop a design for a more coordinated system, especially one that could subsequently be the basis for a machine-readable data base.

U.S. Library Statistics

Almost all state library agencies collect data annually from public libraries in the state and issue a report based on this information. In some states, the state library agency also collects information on school and/or academic libraries, but not in all cases.

The American Library Association collects several different types of data about libraries in the U.S. The Library Administration and Management Association (LAMA) has a statistics section concerned with various aspects of the many different statistical compilations that are developed in the U.S. The Association of Specialized and Cooperative Library Agencies (ASCLA) collects information regularly from state library agencies about their own statistical data collection activities and issues periodic editions of The State Library Agencies, fifth

edition, 1981. The Association of College and Research Libraries (ACRL) has published ACRL Statistics, 1978-79 and is considering similar efforts for the future.

The Association of Research Libraries (ARL) has collected and published statistics about its members annually since 1964. It is probably the most consistent and reliable statistical compilation currently produced in the U.S.

Several individual libraries have collected data regularly from groups that they survey on topics of particular interest, including salaries of librarians and related topics.

The R. R. Bowker Company collects a limited amount of data each year which appears in entries for individual libraries in the American Library Directory. At present, none of the data is aggregated except for data on expenditures which is summarized every two years in the Bowker Annual of Library and Book Trade Information.

The U.S. National Center for Educational Statistics collects and publishes, on a regular schedule, basic statistics about public, school, and academic libraries. The agency also collects and publishes statistics on other types of libraries from time to time.

These several agencies and organizations do share information among each other and it was on that basis that the possibility was raised for strengthening the system by designing a coordinated program to which all of the organizations would contribute to a general statistical data base about libraries. The situation in the U.S. results in part from the size and complexity of the country and the many different levels of government involved in the administration of various types of libraries.

International Library Statistics

The experience of the U.S. is reflected on the international scene, based on the experience the author had in collecting international statistics to illustrate the ALA World Encyclopedia of Library and Information Services. The volume contains a basic description of the library and information services as carried out in more than 160 countries. The description in as many cases as possible includes a general statistical description of the number of public libraries, academic libraries, school libraries, special libraries, and national libraries. In many cases, this information was not available. The

base year for the statistical information was 1976. The data was collected in 1978 and 1979, and therefore much of the statistical data was not available as of 1976. However, the information that was compiled through this direct effort to go into the countries, asking knowledgeable persons to provide this data to an international source, indicates the possibility for improving the design, collection, and dissemination of international library statistics.

Based on the U.S. experience, improvement in the design and coordination of descriptive library statistics is an essential step toward understanding the problems and prospects for libraries around the world. Annexes 2a, 2b, and 2c illustrate simple comparisons that are difficult to make using current statistics. However, the same data offer great promise.

A major priority for IFLA and UNESCO could be to assist the member states in designing appropriate survey instruments that will be compatible internationally as we attempt to display the information compiled as a result of any international library statistical effort. Definitions of terms represent a key element. The base year for the collection of data must allow enough time for both large and small countries to compile the data internally. The recommendation of a design for a coordinated international library statistics program could perhaps be one of the most important accomplishments for IFLA in the near term.

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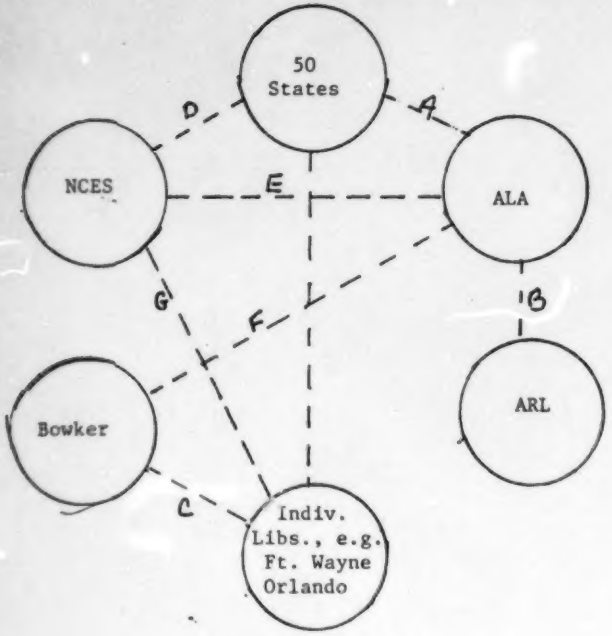
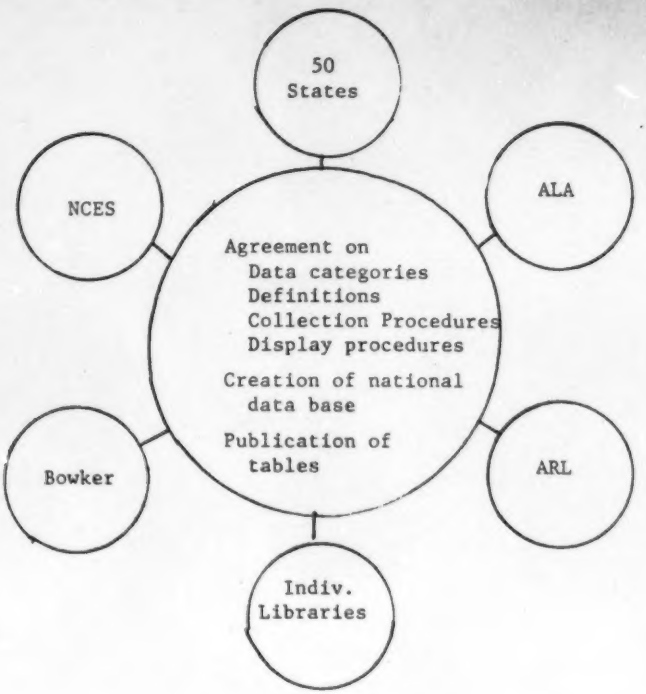


1A. Current (Nonsystem)



1B. Proposed National System

A

PUBLIC LIBARIES

COUNTRY	NO. OF LIBRARIES	SIZE COLLECTIONS	STAFF PROFESSIONAL	TOTAL POPULATION
U.S.A.	8,307	387,564,798	36,135	216,332,000
CANADA	754	37,533,848	1,607	23,500,000
NEW ZEALAND	268	4,783,748	275	3,145,800
MEXICO	579	2,906,319	NA	66,944,000
SWITZERLAND	1948	6,902,090	NA	6,292,000
U.S.S.R.	131,000	1,600,000,000	NA	258,900,000
POLAND	9,100	77,000,000	NA	35,000,000
NETHERLANDS	414	NA	NA	13,897,000
FRANCE	1,044	37,000,000	1,350	53,196,000
DENMARK	251	22,941,074	1,565	5,099,000
UNITED KINGDOM	171	125,459,606	8,097	55,870,000
MALAYSIA	24	820,444	30	12,600,000
SOUTH KOREA	114	1,174,252	189	37,018,900
JAPAN	1,083	48,630,000	3,621	114,689,500
INDONESIA	265	914,000	NA	138,133,500
SINGAPORE	1	988,824	84	2,334,400
RHODESIA	70	500,000	NA	6,930,000
TANZANIA	19	400,000	23	16,073,000
BOTSWANA	8	61,315	8	766,000
AUSTRALIA	500	13,970,000	648	12,466,000

NA - Not Available

(Source: ALA WORLD ENCYCLOPEDIA OF LIBRARY AND INFORMATION SERVICES, CHICAGO, 1980)

B

ACADEMIC LIBRARIES

COUNTRY	NO. OF LIBRARIES	SIZE COLLECTIONS	STAFF PROFESSIONAL	TOTAL POPULATION
U.S.A.	3,000	468,000,000	23,700	216,332,000
CANADA	77	37,490,416	1,582	23,500,00
NEW ZEALAND	34	2,743,341	220	3,14,800
MEXICO	450	4,308,955	NA	66,944,000
SWITZERLAND	8	10,689,000	181	6,292,000
U.S.S.R.	1,360	492,700,000	* 24,714	258,900,000
POLAND	90	33,000,000	NA	35,000,000
NETHERLANDS	12	NA	NA	13,897,000
FRANCE	47	12,000,000	1,275	53,196.000
DENMARK	29	6,054,631	372	5,099.000
UNITED KINGDOM	668	20,642,704	1,654	55,870,000
MALAYSIA	32	1,492,249	163	12,600,000
SOUTH KOREA	156	7,766,161	584	37,018,900
JAPAN	1,170	91,092,000	9,232	114,689,500
INDONESIA	NA	448,913	22	138,133,500
SINGAPORE	6	1,173,207	60	2,334,400
RHODESIA	NA	NA	17	6,930,000
TANZANIA	65	380,000	32	16,073,000
BOTSWANA	1	29,522	6	766,000
AUSTRALIA	187	15,465,000	925	12,466,000

NA - Not Available
* All Staff

(Source: ALA WORLD ENCYCLOPEDIA OF LIBRARY AND INFORMATION SERVICES, CHICAGO, 1980)

C

SCHOOL LIBRARIES

COUNTRY	NO. OF LIBRARIES	SIZE COLLECTIONS	STAFF PROFESSIONAL	TOTAL POPULATION
U.S.A.	74,625	306,964,551	78,219	216,332,000
CANADA	8,692	49,412,275	2,948	23,500,000
NEW ZEALAND	1,067	5,458,722	70	3,145,800
MEXICO	472	1,842,342	NA	66,944,000
SWITZERLAND	2,764	2,460,546	NA	6,292,000
U.S.S.R.	156,000	602,000,000	* 57,000	258,900,000
POLAND	25,000	100,000,000	NA	35,000,000
NETHERLANDS	4,500 (approx.)	NA	NA	13,897,000
FRANCE	3,500	10,000,000	3,150	53,196,000
DENMARK	** 1,835	12,275,409	2,825	5,099,000
UNITED KINGDOM	NA	NA	NA	55,870,000
MALAYSIA	NA	NA	NA	12,600,000
SOUTH KOREA	4,024	11,500,247	1,785	37,018,900
JAPAN	40,523	202,700,000	9,000	114,689,500
INDONESIA	2,800	2,800,000	NA	138,133,500
SINGAPORE	363	2,243,600	13	2,334,400
RHODESIA	NA	NA	NA	6,930,000
TANZANIA	130	325,000	0	16,073,000
BOTSWANA	*** 9	2,400	2	766,000
AUSTRALIA	NA	NA	NA	12,466,000

NA - Not Available

* All Staff

** Primary School

*** Secondary School Only

(Source: ALA WORLD ENCYCLOPEDIA OF LIBRARY AND INFORMATION SERVICES, CHICAGO, 1980)

IFLA SECTION ON STATISTICS

The development of library statistics in the Caribbean

by

Carol Collins 1/

Chief, Information and Documentation Section
Caribbean Community Secretariat
Georgetown, Guyana.

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The Caribbean focus of this Paper is limited to those thirteen scattered territories (eleven islands and two mainland territories) with a total of approximately five million people, which have formed a regional integration grouping - the Caribbean Community (CARICOM). Notwithstanding this special focus, in several respects the situation regarding the development of statistics is shared by the Dutch, French and Spanish-speaking islands.

Library literature is replete with information of the role which statistics can play as:

a) indications regarding the library's environment; including the nature of the clientele,costs and expenditures;

b) library resources;

c) library activities.

These have been well understood in the Caribbean, and have been used with varying degrees of success when it has been necessary to seek or justify increased expenditures for developing services, as indicators of increased activity and/or improved activity; success in meeting planned targets; success in meeting identified needs; comparative performance in relation to the environment and the total population.

Since the mid-1970s the development in library and information services have resulted in:

a) the expansion of the existing public and academic libraries;

b) the increase in the establishment of special libraries;

c) the establishment of information networks;

d) the establishment of links with on-line services;

e) the establishment of abstracting and indexing journals;

as well as the provision of more specialised services such as : selective dissemination of information; literature searches; compiling of specialised bibliographies and referral services.

The above activities have been largely as a result of the decision of Caribbean territories to establish national information systems based on the NATIS concept. Jamaica, whose plan was published in 1977, has already begun phased implementation of a series of sectoral information networks which will be automated. Barbados, more recently has begun the implementation of its plan for a national information system, while in six other islands plans have already been prepared, and in the remaining territories, technical assistance is being sought for the formulation of plans. At the regional level a Caribbean Information System has started with the establishment of the Socio-economic planning sector, for which national focal points exist in all participating territories. Plans exist for the gradual development of other sectors, for example, agriculture, patents.

A number of publications were examined to determine the type of statistics that are being collected in the Caribbean (see appendix 1). From the available statistics, it can be seen that those responsible for the management of the majority of libraries, have recognised the value of statistical data as a management tool and as an indicator for the development of various services.

The public and academic libraries have kept statistical records of their collections, clientele and loan activities, and have used these in planning the development of services. This type of statistical record

is in accordance with the recommendations of the ISO (2789) Standard on International Library Statistics, and is collected on a continuous basis, cumulated and made available in published annual reports. The coverage includes:

Number of libraries. Branch libraries and service points are always listed with a breakdown of the services provided.

Population served. Included here is the total user population of the districts and/or provinces served by the Public library and by the parent organisation of the academic library. This information is readily available for the academic libraries - the University of the West Indies on its three campuses, and the University of Guyana, and can also be acquired from the official records of all the public libraries.

Collections. This is the principal area in which statistical data has traditionally been kept. The acquisition records show a further breakdown by type of material, and the cataloguing statistics, though presented as a total, do include subject areas covered by the library's collection. The statistical annexes to the annual reports also give details of the additions to the collections by type of material - books, manuscripts, microforms, periodical titles.

Number of works loaned. This is in keeping with the ISO Standard and provides statistics on total loans, with a distinction being made, however, between kinds of borrowers. In the case of the academic libraries, distinctions by categories tend not to show types of materials borrowed; whereas in the public libraries, the distinctions also reflect the level of books and other material on loan. None of the records examined showed the number of photocopied items provided to users in lieu of loans.

Interlibrary lending. This data tends to be systematically collated for national and international loans.

Registered borrowers. Usually there is a listing of "members" of the library or information/documentation unit, with periodic rather than annual removal of the inactive records.

Expenditure. Financial reocrds of expenditure on book stock, salaries, and miscellany, are always maintained.

Library employees. All statistical reports show the number of library employees by category, that is: professional full and part-time, with degrees, diplomas, or other certificates, and sometimes the non-professional category is included.

Similar to the ISO Standard, the public and academic libraries maintain no records of the reference queries received - filled and unfilled; the queries demanding longer search times; the in-house use made by readers of reference works, abstracting and indexing journals, directories or referral services.

As a result, the existing statistical records have been prepared and used for identifying requirements for expanding services and the development of branch libraries, for demonstrating the need for additional staff and financial resources, and sometimes for indicating the need for a change in the pattern of service. Indicators of the impact of services on users are left to special studies and surveys.

The special libraries on the other hand tend to compile data on the services they provide, and in some cases request information from users on the satisfaction with the material supplied in response to queries.

The larger well established special libraries maintain a record of reference

queries reflecting the requests made by users, but not giving data on the number of times that the users sought information without the intervention of the librarian. It is therefore difficult to measure systematically the real use of the library's collection and the degree to which user needs have been satisfied.

Apart from the statistical records that are continuously kept, there is an existing range of statistics collected in support of development plans and research papers. Resulting from the desire to develop particular aspects of information and library services, surveys have been carried out at the national and regional levels which have necessitated the compilation of statistical data, which in some cases has been analysed and used as the basis for forecasting requirements, or as an aid in determining developmental directions.

The statistics collected for special projects have been mainly aimed at obtaining information from the in-house records, which are then analysed to provide forecasts and to indicate required changes in the system. The problems endemic to the surveys have been reflected in the results, which are therefore not "pure".

The data, especially that resulting from the plans which have been designed to ensure that there is co-ordination of library and related information services at the national level has included elements identified by the ISO Standard, with the addition of indicators for user needs, some characteristics of existing services in relation to their ability to satisfy user needs, and forecasting of requirements such as manpower resources and training.

The data collected over a period of years from 1976-1983, has not been regularly updated, and in almost all instances supplementary data

will have to be collected especially in relation to the evaluation of what has been accomplished and to determine future directions of development.

Statistical data has also been collected at the national level in the case of Jamaica, Barbados and Trinidad and Tobago for the evaluation of what has been termed "development information units". The data collected by the surveys was used to provide a diagnostic analysis of:

- the establishment, location and orientation of the units, and
- the services, resources and organisation of these special libraries, in order to determine the areas where activities could be improved.

But the data collected represented only a partial analysis of the national information picture, and as the statistical data required was collected by questionnaires, the elements included do not form a regular part of a continuous library record, and have not been kept updated. What is significantly lacking also is data which could be used to measure the level and adequacy of performance and the ability of the libraries' activities to meet the needs of the users.

The measures of user satisfaction were mainly arrived at from an analysis of circulation and reference figures, which ignore requests which went usatisfied, or partially satisfied, and more seriously ignores the indicators of the ratio of present users to the total community, and the ratio of requests satisfied to the total of requests filled.

The recent works on analysing the manpower situation in the region, also included statistical analysis of the data for the entire range of library employees in order to determine future requirements for training and recruitment of library staff.

Although not directly related to users and their needs, one of the surveys attempted to analyse the ratio of staff to users as an indication of required staff for the present and future.

In the recent evaluation of the Caribbean Information System - Social and economic planning sector, the attempts to measure user satisfaction, and the distribution of the System's secondary journals, did not result in the acquisition of a comprehensive range of statistical data. The response to questionnaires was poor, and could not adequately provide an accurate picture of the degree of user satisfaction. Characteristics of the data-base have been indicated however, by a breakdown of the holdings by subject categories. To provide any useful user measure further analysis would be required in respect of the use made of information within the various subject areas.

It would seem then that the emphasis in the Region is still with the traditional use of statistics, when most recent developments in the library and information fields point to the need for increased activity in the use of statistics to provide new indicators which could be used for making relevant qualitative and quantitative judgements with regard to services.

To a large extent the immediate goal of those responsible for the development of information infrastructure in the Region will include that of convincing the policy-makers in Government, that more funds need to be expended to establish and maintain an information system that can support the efforts being made at all levels, towards the achievement of national development goals. The quality of the information system will have to earn and justify increased expenditure in the face of current difficulties at the national level - balance of payments deficits,

shrinking international economic assistance and rising unemployment. The future development of the system also depends on the ability of the managers to effect institution building while delivering a service based on the efficient selection of external databases to be accessed, and the rapid development of databases of locally derived information material on which so much decision-making depends.

Modern developments in the library and information fields in the Region are not now supported by the use of relevant and adequate statistical indicators which are needed to evaluate the performance of the system. It will be necessary therefore to look at the current methods being used to collect statistics, and to analyse the problems inherent therein. The principal methods of obtaining data is still the manual recording on a daily basis, of figures covering particular elements of activities, and accumulation of these into annual records. There will be the need among aothers to ensure standardization of terms in collecting data. All this ought to be done before the further automation of systems.

As there are no research units in the larger libraries to systematically analyse the records kept,or even to determine areas of error or improvement, or to determine user satisfaction on the ratio of user to the total population, and even where accurate records are being kept, the staff time available cannot support a programme of continuous analysis and research, there is need to choose efficiently the most useful kinds of records to be kept, and to periodically analyse these, seeking at the same time to rely on "reasonable assumptions" where possible.

There is need to make suitable linkages between the various types of data that is available from sources within and outside of the library,

which if analysed together could provide a near accurate measure of performance and so give indications of user satisfaction and appropriate directions for development.

It is also important to examine the relevance of the statistical indicators used currently and needed to make adequate forecasts and to incorporate the new ones with these. The statistics which are regularly kept by the formal systems could still be used to provide data for the indicators which have been earlier identified, even though these might not always be incorporated into the permanent statistical record or be used in the annual assessment of performance of the libraries.

The coverage of the national output of information material by the national information system can be partially measured by the comparison of the annual additions to the national bibliography with the statistics produced by the publishers in the country. In CARICOM countries this indicator might not always present a true picture, because much of the national output is either unpublished, or put out by very small publishers whose works are unknown.

The national bibliographies and the CARICOM (regional) Bibliography aim to cover all the publications produced in the Region, but a continuous evaluation of the improvement of their performance would require a comparison of the total output and that captured by the bibliographies. The situation would be the same for the abstracting and indexing journals.

The coverage of the national literature output by international databases, and the coverage of the world scientific and technical literature are both relevant indicators in assessing the characteristics of the information system, and therefore its potential for meeting user needs. At present there seems to be no reliable method of assessing either of

these, as neither the totals of the local or international publishing held can be easily ascertained.

Nevertheless the annual intake of world scientific and technical literature would indicate some degree of the capability of the system in this area. The more refined measure of coverage according to special commodities or priority subject areas reflected on national as well as user profiles might take a longer time to be controlled. In new systems such as those being developed in the Caribbean, efforts are usually made to provide information on special subject areas as a matter of priority, for example, sugar, bauxite, rice and energy. Units within the system have been assigned coverage of these select subjects to meet particular user needs.

The assessment of secondary distribution services, such as abstracting and indexing journals, current awareness bulletins and the quantum of reference services, SDI services, literature searches and referral services, are also measures of the opportunities which users have to satisfy their needs. The total number of requests received are not now being measured, but this could be included in the statistical records. In addition a tally of the number of bulletins and bibliographies would help to provide an indication of the need and demand for information and also additional services and resources which might be required.

The indicators of population size and characteristics can be easily acquired from the published population census, which gives a breakdown according to age, economic activity, educational level, race and religion - all of which are useful indicators of the type and levels of service which users will require.

It is possible to examine many activities and suggest economic

ways of arriving at useful indicators in accordance with a revised ISO Standard. As the Region moves towards further automation and regional networking of sectoral systems, it would be of benefit to the Region if the Department of Library Studies of the University of the West Indies, the Statistical Departments of the Governments, the regional organizations involved with information infrastructure and the regional library association - ACURIL - could make joint efforts to examine critically the problems existing in the measurement and evaluation of library and information services in the Region, and provide practical solutions for these problems.

APPENDIX I

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Évolution des couts des periodiques dans les bibliothèques universitaires francais durant la periode 1972-1982

par

Gérard Thirion, Nancy, Fr

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Section des Statistiques

EVOLUTION DES COUTS DES PERIODIQUES DANS LES BIBLIOTHEQUES UNIVERSITAIRES FRANCAISES DURANT LA PERIODE 1972-1982

A la demande de notre Direction ministérielle (DBMIST) a été réalisée une enquête sur l'évolution des coûts des périodiques à la Bibliothèque Universitaire de Nancy, durant la période 1972-1982.

1. CHAMP D'INVESTIGATION

La BU de Nancy recevait 2993 périodiques en 1982 ; sur ce nombre 1200 étaient des dons ou échanges, 83 formaient la documentation ONU.
Il reste 1710 abonnements :

	Pér.français	Pér.étrangers	Total
Centrale et Professionnel	32	18	50
Droit/Economie	295	71	366
Lettres	186	274	460
Sciences	75	193	268
Médecine	156	314	470
Pharmacie	32	64	96
	776	934	1710

Sur ce nombre il y a 260 "Suites" classées comme périodiques qui ont été exclues de l'enquête compte tenu de leur irrégularité de parution et d'achat.

Nous avons voulu ne comparer que ce qui pouvait l'être, c'est-à-dire les périodiques auxquels la BU étaient abonnée en 1972 et en 1982.

Ceci excluait :

- les périodiques morts ou interrompus durant la période
- les périodiques nouveaux
- les périodiques reçus gratuitement en 1972 et à titre onéreux en 1982

Nous avons d'autre part exclus :

- les périodiques à caractère professionnel (bibliothèque créée en 1978)
- les périodiques de Pharmacie (Bibliothèque créée en 1975)
- les périodiques non scientifiques
- les périodiques (une dizaine) dont nous n'avons pas retrouvé les prix en 1972.

De ce fait, l'enquête n'a porté que sur 807 périodiques

	Pér.français	Pér. étrangers	Total
Droit/Economie	96	38	134
Lettres	133	204	337
Sciences	14	71	85
Médecine	54	197	251
	297	510	807

2. COMPARAISON DES PRIX DES ABONNEMENTS

Nous avons relevé tous les prix des abonnements effectivement payés en 1972 et en 1982 avec des Francs de l'époque, et ceci en tenant compte des taxes et des réductions ou des majorations commerciales.

Les devises étrangères ont été converties en francs au cours de l'époque.

Les résultats sont les suivants :

Périodiques Français

SECTION	NOMBRE	COUT 1972 FF	COUT 1982 FF	FOIS PLUS
DROIT	96	8.711	23.499	2,70
LETTRES	133	9.689	31.625	3,26
SCIENCES	14	9.203	36.862	3,97
MEDECINE	54	8.214	31.655	3,85
TOTAL	297	35.897	123.641	3,44

Périodiques Etrangers

SECTION	NOMBRE	COUT 1972 FF	COUT 1982 FF	FOIS PLUS
DROIT	38	4.794	20.414	4,26
LETTRES	204	15.384	48.067	3,12
SCIENCES	71	38.532	228.102	5,92
MEDECINE	197	43.342	203.145	4,69
TOTAL	510	102.052	499.728	4,90

Ensemble : Périodiques Français et Etrangers

SECTION	NOMBRE	COUT 1972 FF	COUT 1982 FF	FOIS PLUS
DROIT	134	13.505	43.913	3,25
LETTRES	337	25.073	79.692	3,18
SCIENCES	95	47.815	264.964	5,54
MEDECINE	251	51.556	234.800	4,55
TOTAL	807	137.949	623.369	4,52

Le total de 623.369 F payé en 1982 correspond exactement à 55 % des abonnements payés en 1982 (1.123.000 F) et à 35 % du total des crédits documentaires (1.770.000 F)

Le chiffre de 137.949 F de 1972 correspondait à 23 % des dépenses documentaires totales de cette année (590.000 F).

Notons que le rapport des crédits documentaires 1972/1982 est très exactement de 1 à 3.

3. EVOLUTION EN FRANCS CONSTANTS

Les indices de l'INSEE (Institut National des Statistiques et des Etudes Economiques) établissent mois par mois et année par année la dérive inflationniste du pouvoir d'achat.

1970 : 100
1972 : 112
1982 : 320

soit rapport $\frac{1982}{1972} \frac{320}{112} = 2,85$ fois

Notons au passage que cette dérive inflationniste est très légérement inférieure à celle des crédits documentaires (3,00 fois).

Mais par contre, si nous la rapprochons des tableaux de l'augmentation des périodiques, nous ne pouvons qu'accuser des écarts sensibles :

- 22 % soit 2 % par an pour les périodiques français (ratio 3,44/2,85)
- 72 % soit 6 % par an pour les périodiques étrangers (ratio 4,90/2,85)

la moyenne s'établissant à 58,6 % soit 4,7 % par an (ratio 4,52/2,85)

4. CONCLUSIONS

- L'échantillonnage des périodiques retenus à l'avantage d'être un lot total d'une BU moyenne.

- Il est certain que le fait d'avoir inclu une dizaine de périodiques US très coûteux (100.000 F pour l'ensemble en 1982), et compte tenu des taux du $ (7,00 en 1982), a eu une influence sur le taux d'augmentation (x 5,92). Si l'échantillonnage des périodiques Sciences avait été beaucoup plus large, l'impact de cette dizaine de périodiques eût été moins fort.

- Mais nous croyons pouvoir affirmer :

  . que l'augmentation annuelle des périodiques français est légèrement inférieure à 2 % en francs constants

  . que celle des périodiques étrangers est supérieure à 5 %, compte tenu des taxes et de la dépréciation du franc français par rapport aux monnaies fortes ($, £ , DM) des pays où s'achètent 80 % des périodiques étrangers.

  . que la moyenne s'établit à 4,5 % par an.

- Une enquête de notre Direction ministérielle (DBMIST) a utilisé l'enquête de l'ESGBU (Enquête Statistique Générale des BU cf. mon rapport IFLA à Montréal) pour les années 1980/81/82. Il en ressort :

  . que les périodiques français ont augmenté de 17 % à chacune des deux années

  . que les périodiques étrangers ont augmenté respectivement de 22 % et de 27 %

  . que la dérive inflationniste de ces 2 années était de 15 % et de 12,5 %.
  Il nous reste à faire la différence.

Toutefois cette enquête DBMIST pense qu'à l'échelon national, les résultats de Nancy pour 1972/82, tout en étant confirmés, doivent être légérement atténués.

- Il serait souhaitable que d'autres pays à la monnaie plus stable que le Franc français, et moins malmenés par les taux de $, se livrent à des enquêtes similaires afin de déterminer le taux d'augmentation des périodiques en monnaie constante, et en faire tirer des conclusions à ceux qui assurent le financement des BU.

Nancy, le 11 août 1983

Gérard THIRION
Directeur de la BU de NANCY